

REMARKS/ARGUMENTS

Claim Status

Claims 1-6 are pending. Claims 1-3 and 5 are currently amended. Claims 4 and 6-8 are cancelled without prejudice. Claims 7-22 are added. Claim 1 is amended to incorporate the subject matter of claim 4 and to further recite “wherein a percentage change in the electrostatic capacity before and after aging is within 10%.” This amendment finds support in claim 4 and in the specification; pg. 28, line 22 - pg. 29 line 8, and Table 1. Claims 2-3 and 5 are amended for clarity and to delete multiple dependencies. New claims 7-14 find support in original claim 1, and the specification, pg. 11, line 7 - pg. 14, line 6. New claim 15 finds support in the specification; pg. 11, line 20-22. New claim 16 finds support in the specification, pg. 11, lines 25-26. New claim 17 finds support in the specification; pg. 12, line 6. New claim 18 finds support in the specification; pg. 13, lines 15-17. New claim 19 finds support in the specification; pg. 14, lines 4-6. New claim 20 finds support in the specification; pg. 14, lines 7-10. New claim 21 finds support in the specification; pg. 14, lines 11-12. New claim 22 finds support in the specification; pg. 17, lines 15-18 and pg. 28, line 22- pg. 29, line 4; Table 1 and Figure 4. No new matter has been added.

IDS

Applicants note that the Office has not considered the 1449 filed in the IDS filed December 11, 2006. Applicants request consideration of the references cited therein.

Rejections

Claims 1-3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato (US 6,403,513). Claims 4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of JP '176 (JP 2001-316176). Applicants traverse these rejections.

Claim 1 has been amended to incorporate the subject matter of claim 4 and to further recite “wherein a percentage change in the electrostatic capacity before and after aging is within 10%.” This limitation is not disclosed in either of Sato or JP '176.

Applicants further note that in prior art dielectric porcelain composites, the Tc bias characteristics and the capacitance deterioration with time significantly becomes worse if the thickness of the dielectric layer is further decreased and the number of layers is further increased for downsizing the capacitors and increasing the capacitances, or if the rated voltage is increased. Accordingly, the inventors have arrived at the present invention to provide a multilayer ceramic capacitor which has capacitance-temperature characteristics satisfying the X8R characteristic ($\Delta C/C$ is within $\pm 15\%$ at -55 to 150°C) specified by the EIA standard, and has capacitance which does not largely fluctuate with time even if the thickness of the dielectric layer is further decreased and the number of layers is increased for downsizing the capacitor and increasing the capacitance, or if the rated voltage is increased.

Specifically, in the examples of the present specification, the characteristics of the amount of change over time in capacitance were evaluated for each capacitor sample by measuring the percentage change (%) in the electrostatic capacity before and after applying a direct-current voltage of 7.0 V/ μ m for 1000 hours at a temperature condition of 85°C. The electrostatic capacities of the samples before and after the application of the direct current voltage were evaluated as illustrated in Table 1 and Figure 4. As made clear by Table 1 and Figure 4, when the average particle diameter of the dielectric particles were within the range of 0.18 to 0.55 μ m, the percentage change (before and after 1000 hours) in the capacitance was within 10%.

Accordingly, Applicants maintain that even if a *prima facie* case of obviousness were established with respect to the subject matter of original claim 4, which it is not, the

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comparative data in the present application shows that the claimed invention provides superior results over Sato, which are sufficient to rebut the same. Specifically, when the difference ($D_{100} - D_{50}$) between the maximum particle diameter (D_{100}) and the average particle diameter (D_{50}) of the crystal particles of the dielectric layers is $0.4 \mu\text{m}$ or less, a multilayer ceramic capacitor can be produced which has capacitance-temperature characteristics satisfying the X8R characteristic and has capacitance which does not largely fluctuate with time even if the thickness of the dielectric layer is further decreased and the number of layers is increased. These results are unexpected in view of the deficient disclosures of the prior art, and prove that the presently claimed invention is non-obvious over the cited references.

Applicants submit that the results demonstrated in these comparisons clearly illustrate that, even if a *prima facie* case of obviousness had been established, Applicants demonstration is sufficient to rebut the same.

Furthermore, claim 1 has been amended to recite this property, “wherein a percentage change in the electrostatic capacity before and after aging is within 10%.” This limitation is not disclosed in either of Sato or JP '176.

In view of the foregoing, withdrawal of the rejections is requested.

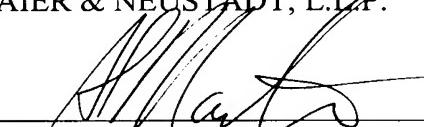
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Conclusion

For the reasons discussed above, Applicants submit that all now-pending claims are in condition for allowance. Applicants respectfully request the withdrawal of the rejections and passage of this case to issue. Should the Examiner have any questions regarding the claims or otherwise wish to discuss this case, he is kindly invited to contact Applicants' below-signed representative, who would be happy to provide any assistance deemed necessary in speeding this application to allowance.

Respectfully submitted,

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